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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/524,348	09/26/2005	Peter Jonen	HM-616PCT	4587
40570	7590	07/20/2007		
FRIEDRICH KUEFFNER 317 MADISON AVENUE, SUITE 910 NEW YORK, NY 10017			EXAMINER LIN, KUANG Y	
			ART UNIT 1725	PAPER NUMBER
			MAIL DATE 07/20/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/524,348

Applicant(s)

JONEN ET AL.

Examiner

Kuang Y. Lin

Art Unit

1725

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

METAL FOUNDING

Presenter: Kuang Lin

Class: 164

Art Unit: 1725

Class 164, metal founding, is drawn to pattern making, mold making, metal casting, and product treating. Wood, wax, polymer, metal, etc. are used for making pattern, which is a replica of the metallic article to be cast. The pattern is then embedded in a mold material for forming a foundry mold which is used for shaping a metallic article.

The **key words** for class 164, metal founding, are: **foundry, pattern, mold, molding, die, core, coating/lubricating, composite, casting, rheocasting, thixocasting, solidification.**

That is, anything related to pattern for molding (which include wood pattern; foam pattern; wax pattern; and other fugitive pattern), pattern making (which including injection molding; CAD processing); mold for metal casting (which includes sand mold; shell mold; investment mold; ceramic mold); core for metal casting (core or core assembly); die for metal casting (which includes pressure die; injection die); mold/core making (which includes shell mold making; investment mold making; sand mold making); metal casting (which includes investment casting; lost wax casting; lost foam casting; hot chamber die casting; cold chamber die casting; centrifugal casting; gravity casting; counter gravity casting; spray casting; composite casting or making; continuous casting; vacuum casting; electro slag remelting; electromagnetic casting; electromagnetic stirring; electromagnetic braking); mold/die coating or lubricating (which includes sand mold coating; injection die coating; mold lubricating; molding flux dispensing); solidification of metal (which includes directional solidification of metal; single crystal growth of molten metal; turbine blade casting).

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1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

3. Claims 1 and 2 insofar as definite are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-57,401 and further in view of US 5,664,619 to Anderson et al. for the same reasons as set forth in the last office action.

Namely, JP '401 substantially shows the invention as claimed except that it does not show to place fixed parts of EM means in water tank for cooling the same and as well as the mold plates such that to generate a closed magnetic flux through the water tank. However, Anderson et al. show that it is conventional to place the fixed parts of the EM means in the water tank and thereby to cool the same in addition to cool the mold plates. It would have obvious to place the fixed part of the EM means of JP '401 in a water tank for cooling the same and the

mold plate in view of Anderson et al. such that to facilitate the continuous casting process.

4. Claims 3 and 5 insofar as definite are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-57,401 in view of US 5,664,619 to Anderson et al. as applied to claim 1 above, and further in view of US 5,613,548 to Streubel et al.

It would have been obvious to further provide the mold with filler pieces for varying the magnetic field in view of Streubel et al. who show that feature to be conventional.

5. Claims 4 and 6-9 insofar as definite are rejected under 35 U.S.C. 103(a) as being unpatentable over JP 9-57,401 in view of US 5,664,619 to Anderson et al. as applied to claim 1 above, and further in view of JP 59-229,265.

It would have been obvious to provide the actuator means and guide for moving the EM parts 6c and 7A of JP '401 in view of JP '265 to facilitate the moving process. It would also have been obvious to provide antifriction means between two relative moving parts wherever it deems necessary to facilitate the moving process. With respect to claim 6, the EM means in JP '401 will also generate certain degree of EM force for holding parts together.

6. Applicant's arguments filed June 15, 2007 have been fully considered but they are not persuasive.

- a. In page 8, 4th paragraph of the remarks applicant stated that JP '401 does not disclose or suggest a braking device constructed to produce a magnetic flux through the water tanks in which the magnetic parts of the core are mounted.

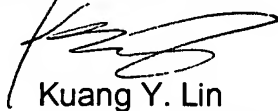
However, Anderson shows to construct an EM brake means comprises a front core (5), a rear core and a coil (7). The front core is an integral part of the water box beam (water tank) and the rear core comprises a rear movable part (6b) which is movable in a direction which substantially coincide with the direction of the field. During the continuous casting process the mold oscillates. The front core oscillates along with the mold. The rear core and the coil do not oscillate. Thus, the specific design of EM brake means facilitate the oscillation of mold assembly. It would have been obvious to provide the EM brake of JP '401 with the design of Anderson in view of the advantage. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

b. In page 9, 1st paragraph of the remarks applicant stated that in Anderson there is no teaching of the water tank having walls formed so as to accommodate the primary part of core in the operation position at a certain distance from the broad side walls. However, as the water box beams (which are a water tanks) of Anderson are provided in the mold of JP '401, the front portions of the respective S and N poles are integrated with the water tanks. The primary parts (6c and 7A) are at a certain distance from the broad side walls of the water tanks. Thus, applicant's argument is not deemed to be persuasive.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kuang Y. Lin whose telephone number is 571-272-1179. The examiner can normally be reached on Monday-Friday, 10:00-6:30,.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jonathan J. Johnson can be reached on 571-272-1177. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Kuang Y. Lin
Primary Examiner
Art Unit 1725

7-18-07